

Doc Code: AP.PRE.REQ

**RECEIVED  
CENTRAL FAX CENTER**
**SEP 06 2007**Approved for use through 10/10/200x. OMB 0851-00xx  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional)

SCS-124-1134

## Application Number

10/549,817

## Filed

September 19, 2005

## First Named Inventor

JENKINS

## Art Unit

2883

## Examiner

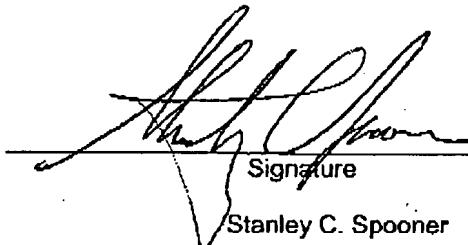
J. Blevins

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.



Signature

Stanley C. Spooner

I am the

 Applicant/Inventor Assignee of record of the entire interest. See 37 C.F.R. § 3.71. Statement under 37 C.F.R. § 3.73(b) is enclosed. (Form PTO/SB/96) Attorney or agent of record 27,393  
(Reg. No.)

Typed or printed name

703-816-4028

Requester's telephone number

 Attorney or agent acting under 37 CFR 1.34.  
Registration number if acting under 37 C.F.R. § 1,34 \_\_\_\_\_

September 6, 2007

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.\*

 \*Total of 1 form/s are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-8199 and selection option 2.

**STATEMENT OF ARGUMENTS IN SUPPORT OF  
PRE-APPEAL BRIEF REQUEST FOR REVIEW**

**Error #1. The Examiner continues to fail to identify any teaching  
in the Tu reference of the structure of a  
“multiplexer/demultiplexer device”**

Applicants' independent claim 1 is directed to an "optical wavelength division multiplexer/demultiplexer device." The Examiner was informed in the previously filed Amendment (filed March 9, 2007) on page 8, that the Tu device, especially in the reference to Figure 3, does not teach the claimed "multiplexer/demultiplexer device."

In the Final Rejection, under the heading "Response to Arguments," the Examiner identifies portions in the abstract and in columns 1 and 2 of the Tu reference which he contends teach a "multiplexer/demultiplexer device." Again, the Examiner is simply incorrect. The abstract refers to structures "which are eventually incorporated to be a multiplexer and/or a demultiplexer," but there is no disclosure of any structures which are a "multiplexer/demultiplexer," i.e., a device which can accomplish both functions. Similarly, in Tu's column 1, line 11 and column 2, lines 39-40 describes structures which are formed "as the building base for the multiplexer and/or the demultiplexer." Again, there is no disclosure of a "multiplexer/demultiplexer device" itself – only a possible "building base" for such a device.

Accordingly, the Examiner apparently fails to appreciate that the device of claim 1 is not shown in the Tu patent.

**Error #2. The Examiner errs in his contention that the Figure 3  
embodiment of Tu can provide any multiplexing function**

In response to the Examiner's previous allegation that the Tu reference taught both multiplexing and demultiplexing, Applicants' March 9, 2007 Amendment, in the last portion of the first paragraph on page 8, pointed out that the disclosed structures in Figure 3 of the Tu patent only performed multiplexing. Applicants' claim requires the elements of (a) a substrate

JENKINS et al

Appl. No. 10/549,817

September 6, 2007

having a plurality of wavelength selecting filters and (b) hollow core waveguides formed in the substrate and (c) combined so as to provide a optical wavelength division multiplexer/demultiplexer device.

In the Response to Arguments portion of the Final Rejection, the Examiner does not even allege that any combination of structures in the Tu reference comprises a multiplexer and a demultiplexer. Applicants have previously noted that the Figure 3 embodiment of Tu can perform two functions. First, it couples light from the transmitter 307 into the fiber 312 (which is neither multiplexing nor demultiplexing). Second, it can demultiplex light received from the fiber 312 into two spectral components which are detected at 310 and 311.

Nowhere in the Response to Arguments does the Examiner identify any structures in the Tu reference which, when combined, operate to perform optical wavelength division multiplexing function. The fact that the Examiner does not even allege that there are a combination of filters, waveguides, etc. in the Tu reference which comprise a multiplexer is believed to be a clear admission that they do not exist. Should the Examiner still consider that there are some structures or structural combinations in the Tu reference that act as a "multiplexer" and in particular an "optical wavelength division multiplexer," to establish a *prima facie* case of obviousness he is obligated to identify the structures and interrelationship between structures which provide the multiplexer operation.

The Examiner's failure to identify any structure and structural interrelationship confirms the absence of any support for a rejection under 35 USC §103 based upon the Tu reference (it is noted that the Examiner does not contend that the secondary reference Miura ("Modeling and Fabrication of Hollow Optical Waveguide for Photonic Integrated Circuits") teaches the missing claimed elements of a multiplexer/demultiplexer.

JENKINS et al

Appl. No. 10/549,817

September 6, 2007

**Error #3. The Examiner continually refers in the "Response to Arguments" that element 304 in the Tu reference is a "wavelength filter" when in fact item 304 of Tu is indicated as being "a dielectric multi-layered half-mirror 304" (column 3, lines 52-53)**

There is no indication in the Tu reference that the half-mirror 304 can or does act as a filter. Further, Tu actually does refers to a single "dielectric multilayered filter 303" (column 3, lines 49-50). Tu discloses only the single "filter 303." Thus, filter 303 and half-mirror 304 are not the same structures in Tu and are specifically described in the Tu specification as being different elements and having different functions. There is simply no support to the Examiner's contention that these are the same structure, and the Examiner's misinterpretation of Tu is clearly rebutted by the Tu reference itself. Tu fails to teach a plurality of filters as contended by the Examiner.

Moreover, the Tu reference needs only a single filter 303 because the device only splits light from the fiber 312 into two spectral bands which are received at the two receivers 310 and 311. A second filter, even if available, would be completely pointless in the Tu reference.

Applicants' claim requires a "substrate having a plurality of wavelength selecting filters" and because the Tu reference only teaches a single "dielectric multilayered filter 303," it does not meet the language of Applicants' independent claim and therefore does not support any rejection under 35 USC §103. In fact, Tu teaches away from the claimed plurality of filters.

**Error #4. The Examiner also fails to identify where the prior art teaches hollow core waveguides which are "formed in said substrate to guide light between the wavelength selecting filters"**

All of Applicants' claims specifically recite an interrelationship between the "plurality of wavelength selecting filters" and the "hollow core waveguides." The interrelationship is to "guide light between the wavelength selecting filters." Because the Examiner cannot identify any more than a single "filter 303" in the Tu reference, there can be no waveguide which is arranged to "guide light between the wavelength selecting filters."

JENKINS et al  
Appl. No. 10/549,817  
September 6, 2007

As noted above, the Examiner erroneously concludes that structure 304 is a wavelength selecting filter and ignores the text of the Tu reference which identifies it as a "multilayered half-mirror 304." The Examiner also ignores the fact that a second wavelength selecting filter would be pointless in Tu because there are only two spectral bands received at the two receivers 310 and 311 in the Tu device.

As a result, Tu clearly cannot teach any hollow core waveguide guiding light "between" two filters because it teaches only one filter and thus the rejection under §103 fails.

**Error #5. The Examiner erroneously contends that Tu's "optical fiber 312" serves "to guide light between the wavelength selecting filters" ("Tu teaches that light is guided from waveguides 312 between filters 303 and 304." Final Rejection, page 2)**

As stated in the Tu reference, "optical fiber 312" provides an input beam to the device. However, the optical fiber ends prior to encountering single filter 303 and certainly doesn't exist between filter 303 and mirror 304 (which the Examiner contends is a filter). Therefore, even if mirror 304 were a filter (in contravention to the disclosure of the Tu reference), fiber 312 does not do any guiding of light between the wavelength selecting filters. This issue was clearly and concisely considered in the first full paragraph on page 9 of Applicants' previously filed Amendment.

Again, the Examiner's statement that "light is guided from waveguides 312 between filters 303 and 304" is a misstatement of the claim language. The claim requires waveguides "to guide light between the wavelength selecting filters" and no such structure is present in the Tu reference.

**Error #6. The Examiner fails to provide any motivation for modifying Tu or combining any additional features from the Miura reference**

There must be some "reason" or "motivation" for combining references in an obviousness rejection. Again, as pointed out in detail in Applicants' previously filed

JENKINS et al

Appl. No. 10/549,817

September 6, 2007

Amendment, the Examiner has provided no "reason" or "motivation" for combining the references. The Examiner again attempts to rely upon his allegation of temperature insensitivity as motivation. As previously noted in Applicants' Amendment, 3<sup>rd</sup> paragraph on page 10, the Tu reference is already temperature insensitive and therefore there would be no motivation to import the Miura hollow waveguides and their alleged "temperature insensitivity" into the Tu reference.

The Examiner continues to avoid his responsibility to establish a *prima facie* case of obviousness by identifying some "reason" or "motivation" for combining the references. Accordingly, the rejection under 35 USC §103 fails.

#### SUMMARY

The Tu reference fails to disclose any "optical wavelength division multiplexer/demultiplexer device." The half-mirror 304 in Tu is misidentified by Examiner and there is no disclosure of more than one single filter. The Examiner ignores the wording of the independent claims, i.e., "guide light between the wavelength selecting filters" and instead alleges that "light is guided from waveguides 312 between filters 303 and 304" when this is not what is required by the claim language. The Examiner fails to provide any "reason" or "motivation" for combining the two references and does not rebut the clear "teaching away."

As a result of the above, there is simply no support for the rejection of Applicants' claims under 35 USC §103. Applicants respectfully request that the Pre-Appeal Panel find that the application is allowed on the existing claims and prosecution on the merits should be closed.